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Implementing a Layered Approach to Address COVID-19 in Public Indoor Spaces

It is essential to implement a multifaceted, layered approach to reduce the risk of indoor airborne transmission of COVID-19. In addition to wearing masks, social distancing and cleaning/disinfection, it is important to implement engineering controls, administrative controls and space reconfiguration, adapted for the specific building and situation, to address COVID-19 in public indoor spaces. These measures should be considered in schools, offices, commercial buildings, and common areas of apartment buildings, mixed use buildings, and other public indoor spaces such as lobbies, sitting rooms, laundry rooms, and recreational rooms.

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Engineering Controls

Engineering controls are important components of a multilayered approach to reducing the risk of airborne transmission of COVID-19 in an individual building or space. The use of engineering controls such as ventilation and filtration will vary by building, depending in part on the type, age and capacity of a building's HVAC systems.

Important engineering controls include:

- **Increasing outside-air ventilation** to the maximum practical. Please visit [Ventilation and Coronavirus \(COVID-19\)](#).
- **Increasing air filtration** by filtering the air that is re-circulated through the building to remove as many aerosol particles (i.e. very small particles containing the virus) as possible. Increasing air filtration may include upgrading HVAC filters to MERV 13 (or the highest MERV rating a building's ventilation system can accommodate) and placing portable air cleaners in areas that are hard to ventilate with outside air or that have high density or occupancy. Visit [Air Cleaners, HVAC Filters, and Coronavirus \(COVID-19\) for more information.](#)
- **Adjusting or reconfiguring air flows** to minimize indoor airborne transmission of the virus between people. This may include such measures as exhausting all restrooms directly to the outside and redirecting airflows so that they do not blow directly from person to person, if feasible. See [ASHRAE's guidance](#). EXIT

Read [EPA's Guide to Air Cleaners in the Home](#).

[Read ASHRAE's position document on filtration and air cleaning.](#) EXIT

Administrative Controls

Administrative controls are also important components of a multilayered approach to reducing the risk of airborne transmission of COVID-19 in an individual building or indoor space.

Administrative controls may include:

- Practices designed to reduce crowding or occupancy such as telework, staggered schedules, remote/video meetings, etc.
- Limiting the use of small spaces that are shared, such as meeting rooms, laundry rooms, and lobbies.

These approaches would be equivalent to increasing the ventilation per person in buildings, or in specific rooms.

Refer to CDC for more information:

- [COVID-19 Employer Information for Office Buildings](#)
- [Returning to Work](#)
- [CDC Coronavirus homepage](#)

Remember to practice social distancing when in indoor shared spaces, including when commuting.

- Indoor spaces are more risky than outdoor spaces where it might be harder to keep people apart and there's less ventilation.
- Maintain at least 6 feet of distance between you and others. COVID-19 spreads more easily between people who are closer together. Wearing a mask does not replace the need to practice

Reconfiguration of Building Spaces and Furnishings

Reconfiguration of building spaces can be an important component of a multilayered approach to reducing the risk of airborne transmission of COVID-19 in an individual building or space.

Reconfiguration efforts may include:

- Reconfiguration of building layouts and/or of individual rooms
- Reorientation of office furniture or cubicles
 - For example, reorienting adjoining workstations so employees do not face each other could be an important component of an overall plan to address the virus.
- Addition of partitions or transparent barriers

When reconfiguring building spaces, the use of partitions can also help reduce risks of transmission by minimizing direct air flow between people. This is especially important when additional filtration and ventilation recommendations cannot be fully implemented.

[Refer to CDC guidance for more information.](#)

social distancing.

- [Wear a mask](#) in public settings, where it is especially important when staying 6 feet apart from others (about two arms length) is not possible. Interacting without wearing a mask increases your risk of getting infected.
- Avoid close contact with others on your commute to work, if possible. Consider biking, walking, or driving either alone or with other members of your household.

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Additional Resources

- [CDC Coronavirus homepage](#)
- [CDC COVID-19 Employer Information for Office Buildings](#)
- [CDC Interim Guidance for Businesses and Employers Responding to Coronavirus Disease 2019 \(COVID-19\)](#)
- [ASHRAE COVID-19 Resources](#)

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[Return to Indoor Air and Coronavirus \(COVID-19\).](#)

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